

Appl. No.: 10/698,502  
Amdt. Dated: June 14, 2006  
Reply to Office Action of: March 14, 2006

### REMARKS/ARGUMENTS

#### 1. Claims

Claims 24- 40 remain in this application.

#### 2. Claim Rejections under 35 USC § 102

The Examiner has rejected claims 24 40 under 35 U.S.C. §102(b) as being anticipated by Quandt (United States Patent Number 3,655,354).

The Examiner states that claims 24 and 27-39 are rejection for reasons of record in the Office Action of 10.05/05. Regarding claims 25, 26 and 40, since Quandt disclosed a crucible having the same characteristics as presently claims, it is the Examiner's position that the crucible will necessarily exhibit the properties cited in claims 25, 26, and 40. Applicant traverses the rejection.

First, Quandt teaches, and claims in claim 1, the use of a permeable graphite crucible *impregnated with a selected metal salt [prior to use]*. That is, a crucible having salts of selected metals impregnated therein. (See Quandt, column 1, line 52, to column 2, line 38). The Quandt crucible is thus a modified crucible. As Quandt indicates in his patent, the purpose is to prevent adhesion of quartz to the surface of the crucible by the formation of a metal silicate during the quartz fusion process. Further, *Quandt teaches away from the use of crucibles that are not impregnated with metal salts prior to use as indicated in the Summary of the Invention, column 1, lines 29-47.*

Reading applicant's claims in the light of the specification, there is no similar teaching in applicant's specification. In fact, if one were to use the aluminum and magnesium salts claimed in Quandt's claims 3 and 4, such a crucible, whether permeable or not, would produce a calcium fluoride single crystal that is unusable for far-ultraviolet lithography due to metal contamination. In addition, even if one were to use a Quandt crucible impregnated with a calcium salt, it is believed that such impregnation would be

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detrimental to the formation of a single crystal by providing nucleation sites for crystal growth along the walls of the crucible. As a result of such sites, the use of a Quandt crucible might result in a crystal that has a mixture of different "crystals" having different axial orientations instead a single (mono) crystal with a single axial orientation as stated in the specification.

Second, the Examiner asserts that the crucible of Quandt has each and every characteristic of that claimed in applicant's claims. Applicant asserts that that is incorrect because applicant's crucible is free of metal salts. Applicant submits that if one were to follow the Examiner reasoning, then one skilled in the art, following the teaching of Quandt, would conclude that the use of a "crucible that does not contain metal salts" would lead to a metal fluoride crystal that is not suitable for far-ultraviolet lithography because it would include sufficient bubbles or impurities to render the single crystal unsuitable for far-ultraviolet lithography.

Third, applicant submits that to be a to be a 35 U.S.C. §102(b) rejection the cited art must contain each and every element of the claimed invention, assembled or operating in the same manner as the claimed invention. In this instance *the cited art requires and element not present in applicant's invention as claimed*. Namely, the presence of the metal salt. It is clear from Quandt at column 1, lines 29-47, that Quandt considers the metal salts an essential element without which even permeable crucibles would not produce a bubble-free product. This is illustrated by Quandt in the Example 1, column 3, lines 8-14, and Example 2, column 4, lines 4-10.

Therefore, for reason stated above applicant submits that Quandt does not anticipate the claimed invention.

Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and

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patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Walter M. Douglas at 607-974-2431.

June 14, 2006  
Date

<p><b>CERTIFICATE OF TRANSMISSION</b> <b>UNDER 37 C.F.R. § 1.3</b></p> <p>I hereby certify that this paper and any papers referred to herein are being transmitted by facsimile to the U.S. Patent and Trademark Office at 571-273-8300 on:</p> <p><u>June 14, 2006</u> Date</p> <p><u>Walter M. Douglas</u> <u>14 June 2006</u> Walter M. Douglas Date</p>
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Respectfully submitted,  
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